over a given timescale is difficult to determine.

Walsh et al. (unpublished data) used LiDAR elevation data to quantify the barrier island cross-sectional island volume, and these data were then employed as a proxy for the risk of forming a new inlet. The data are in an ArcGIS shapefile, enabling them to be overlain with other datasets and used to determine the number and value of homes and specific infrastructure at risk, etc. The data are provided on the internet at the North Carolina COastal HAZards (NC COHAZ) Decision Portal, a recently created web site aimed at communicating hazard information (http://coastal.geology.ecu.edu/NCCOHAZ/maps/inlet_potential.html).

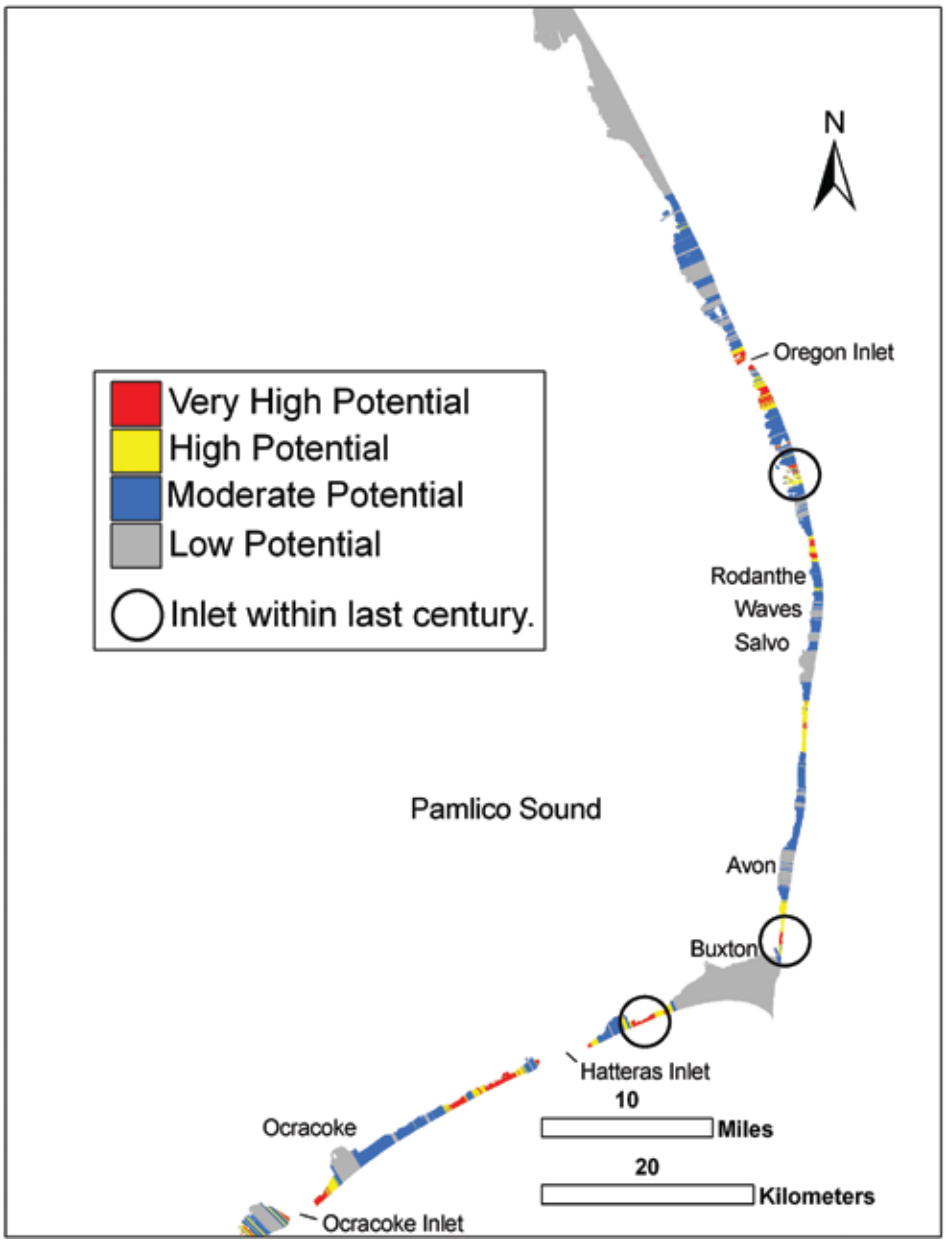

Figure 20. Inlet-opening potential along the Outer Banks (http://coastal.geology.ecu.edu/NCCOHAZ/maps/inlet_potential.html). Opening potential is based on measurements of sub-aerial island volume. Categories are defined by quartiles of the total population measured. Note the key and that the locations of inlets in last century are areas mapped as "Very High Potential" (red).

The work by Walsh et al. (unpublished) is a good example of the type of data and tools needed for coastal decision making and, more specifically, is a first step towards quantifying the risk of future inlet opening. However, much improvement is still needed. Not only must the method of predicting hazards be improved through the coupling of geophysical data with geospatial models but also public education and the tools for hazard communication, data collection and integration need to be strengthened. It would be useful to have coastal hazard prediction tools which identify risk areas in advance (48 hours) of approaching storms. Also, a system which instantly incorporates flood observations with elevation and infrastructure data could aid in emergency response efforts. East Carolina University geologists and geographers and the RENaissance Computing Institute at ECU (http://www.ecu.edu/renci/) are working with other researchers and managers across the state to develop such useful hazard-specific tools.

The inlet-opening potential maps of Walsh et al. identify several sites of concern (Fig. 20). The former inlet locations of Buxton Inlet (opened during the Ash Wednesday storm of 1962), New Inlet (re-opened for several years by a hurricane in 1933) and Isabel Inlet are characterized as "Very High Inlet Potential". Beyond these areas, several other potential inlet locations are highlighted, including portions of eastern Ocracoke Island, the island segment between Avon and